

## Claims

What is claimed is:

- 1 1. A method of providing a location-based service, comprising:
  - 2 creating a database of broadcast radio stations;
  - 3 maintaining, for each broadcast radio station, a schedule of program
  - 4 information; and
  - 5 maintaining for each broadcast radio station, geographic boundary
  - 6 information that defines a boundary within which a pre-determined radiated energy
  - 7 pattern is found.
- 1 2. The method of Claim 1, wherein the program information includes a program
- 2 classification code.
- 1 3. The method of Claim 1, further comprising,
  - 2 receiving, from a location-aware product, information representative of the
  - 3 geographic position of the location-aware product to within a pre-determined
  - 4 accuracy;
  - 5 receiving from the location-aware product one or more program classification
  - 6 codes; and
  - 7 communicating one or more station tuning codes to the location-aware
  - 8 product;
  - 9 wherein the tuning codes are associated with broadcast radio stations.

1 4. The method of Claim 3, further comprising receiving sensitivity data from the  
2 location-aware product.

1 5. The method of Claim 3, further comprising receiving selectivity data from the  
2 location-aware product.

1 6. The method of Claim 3, further comprising receiving model information from  
2 the location-aware product.

1 7. The method of Claim 3, further comprising determining which one or more  
2 station tuning codes to communicate to the location-aware product; and wherein  
3 determining is based, at least in part, on one or more sensitivity characteristics of the  
4 location-aware product.

1 8. The method of Claim 3, further comprising determining which one or more  
2 station tuning codes to communicate to the location-aware product; and wherein  
3 determining is based, at least in part, on one or more selectivity characteristics of the  
4 location-aware product.

1 9. The method of Claim 6, further comprising determining which one or more  
2 station tuning codes to communicate to the location-aware product; and wherein

3 determining is based, at least in part, on one or more sensitivity or selectivity  
4 characteristics of the location-aware product, the one or more sensitivity or  
5 selectivity characteristics being derived from the model information.

1 10. The method of Claim 9, wherein the location-based services provider derives  
2 the sensitivity or selectivity information from the model information by accessing a  
3 database.

1 11. The method of Claim 6, further comprising determining the sensitivity and  
2 selectivity characteristics of the location-aware product based on the received model  
3 information.

1 12. The method of Claim 3, further comprising determining the time of day at the  
2 geographic position of the location-aware product; and determining which one or  
3 more station tuning codes to communicate to the location-aware product based, at  
4 least in part, on the geographic position and the time of day at the geographic  
5 position.

1 13. A method of operating a location-aware mobile radio, comprising:  
2 a) providing a frequency assignment to each of a plurality of user input  
3 interfaces, each assignment based, at least in part, on a first geographical zone;

4           b) determining whether a present location of the location-aware mobile radio  
5    is within a second geographical zone;  
6           c) providing, if the determination in (b) is affirmative, a second frequency  
7    assignment to at least one of the plurality of user input interfaces.

1    14.   The method of Claim 14, wherein the user input interface comprises a button.

1    15.   The method of Claim 13, wherein the user input interface comprises a switch.

1    16.   The method of Claim 13, wherein the second geographical zone overlaps the  
2    first geographical zone.

1    17.   A location-aware radio, comprising:  
2           a radio adapted to receive and demodulate signals from a plurality of  
3    broadcast radio stations, and to produce at least an audio output;  
4           a location information resource disposed in a known spatial relationship to the  
5    radio; and  
6           a transceiver, coupled to the location-information resource, and coupled to  
7    the radio, the transceiver adapted to transmit at least an identification code and  
8    location information, and further adapted to receive tuning information, and  
9    communicate the tuning information to the radio.

1 18. The location-aware mobile radio of Claim 17, wherein the location information  
2 resource comprises a GPS module.

1 19. The location-aware mobile radio of Claim 18, further comprising a processor  
2 coupled to the GPS module, the radio, and the transceiver; and a memory coupled  
3 to at least the processor and the radio.

1 20. The location-aware mobile radio of Claim 19, further comprising an interface  
2 adapted to physically and electrically couple a cellular telephone to at least the  
3 processor.

1 21. A method of creating a database, comprising:  
2 obtaining, and retrievably recording in a computer readable format,  
3 information regarding a plurality of broadcast stations, including a broadcast station  
4 call sign and a carrier frequency, associated with each of the plurality of broadcast  
5 stations;

6 obtaining, and retrievably recording in a computer readable format, one or  
7 more field strength boundaries for each broadcast station in a second plurality of  
8 broadcast stations; and

9 obtaining, and retrievably recording in a computer readable format,  
10 programming information for each broadcast station in third plurality of broadcast  
11 stations;

12 wherein the second plurality and the third plurality of broadcast stations are  
13 each at least a subset of the first plurality of broadcast stations.

1 22. The method of Claim 21, wherein each of the plurality of broadcast stations  
2 comprises a transmitter operable to transmit a radio signal having a field strength  
3 that varies with distance from the transmitter, and each field strength boundary  
4 defines a region within which the field strength of the radio signal, with which the  
5 boundary is associated, is nominally above a predetermined threshold.

1 23. The method of Claim 22, wherein the predetermined threshold is determined  
2 such that the radio signal may be adequately received.

1 24. The method of Claim 22, wherein the predetermined threshold is determined  
2 such that the radio signal may be received by a location-aware radio having  
3 predetermined sensitivity and selectivity characteristics.

1 25. The method of Claim 21, wherein a field strength boundary includes temporal  
2 limitations.

1 26. The method of Claim 22, wherein the programming information comprises  
2 one or more program schedules.

- 1 27. The method of Claim 22, wherein the programming information comprises
- 2 one or more station formats.
  
- 1 28. The method of Claim 22, wherein the programming information comprises
- 2 one or more syndicated show schedules.
  
- 1 29. The method of Claim 22, wherein the database may be accessed so as to
- 2 retrieve at least broadcast station carrier frequencies based, at least in part, on the
- 3 logical union of a program type and radio signal field strength at a particular set of
- 4 geographical coordinates.